

I Claim:

1. A water treatment unit, comprising
  - a housing having transverse dimensions and a height, said transverse dimensions being substantially greater than the height of said housing;
  - a substantially vertical outer wall extending around and defining the perimeter of said housing;
  - at least one substantially vertical inner wall in said housing spaced from said outer wall and defining a chamber between said inner and outer walls;
  - a plurality of openings in said outer and inner walls constructed and arranged to direct water to flow in a substantially transverse direction through said chamber;
  - a bottom wall on said housing closing the bottom of said housing at least at said chamber between said inner and outer walls;
  - a top wall closing the top of said housing and said chamber between said inner and outer walls;
  - a discharge from said housing and within said inner wall; and
  - a finely divided water treatment medium in said chamber and positioned therein so that the water flows transversely through said finely divided medium.
  
2. The unit of claim 1, including at least two inner walls in said housing, one of said inner walls and said outer wall defining a first chamber therebetween, said two inner walls defining a second chamber therebetween, and said second inner wall defining a third chamber; and a plurality of openings in each of said walls to permit water to flow in a substantially transverse direction through said first and second chambers and into said third chamber.
  
3. The unit of claim 2, wherein said first and second chambers each contain a finely divided particulate water treatment media and the water flows transversely through the particulate media in each said chamber.

4. The unit of claim 3, wherein said particulate water treatment media comprises one or more of a finely divided metal and/or carbon.

5. The unit of claim 3, wherein said third chamber is substantially devoid of water treatment media and the water which has flowed transversely through the media in said first and second chambers is mixed in said third chamber.

6. The unit of claim 1, including a second housing which depends downwardly from said first housing and defines a chamber in said discharge, said second housing having a discharge to discharge the water from said chamber in said second housing.

7. The unit of claim 6, including at least two inner walls in said first mentioned housing, one of said inner walls and said outer wall defining a first chamber therebetween, said two inner walls defining a second chamber therebetween, and said second inner wall defining a third chamber which discharges to said chamber in said second housing; and a plurality of openings in each of said walls to permit water to flow in a substantially transverse direction through said first and second chambers and into said third chamber.

8. The unit of claim 7, wherein said first and second chambers each contain a finely divided particulate water treatment media and the water flows transversely through the media in each said chamber.

9. The unit of claim 8, wherein said particulate water treatment media comprises one or more of a finely divided metal and/or carbon.

10. The unit of claim 9, wherein said chamber of said second housing also contains a particulate water treatment medium.

11. The unit of claim 10, wherein said particulate water treatment medium in said chamber of said second housing comprises a finely divided carbon or a finely divided resin.

12. The unit of claim 8, wherein said third chamber is substantially devoid of water treatment media and the water which has flowed transversely through the media in said first and second chambers is mixed in said third chamber before it passes to said chamber in said second housing.

13. The unit of claim 6, wherein said bottom wall of said housing also closes said first mentioned housing to said chamber in said second housing, said bottom wall having first and second openings therein, said first opening communicating with said chamber in said second housing and said second opening bypassing said chamber in said second housing, and a valve operable to a first position for opening said first opening and blocking said second opening, and to a second position for opening said second opening and blocking said first opening.

14. The unit of claim 11, wherein said bottom wall of said housing also closes said first mentioned housing to said chamber in said second housing, said bottom wall having first and second openings therein, said first opening communicating with said chamber in said second housing and said second opening bypassing said chamber in said second housing, and a valve operable to a first position for opening said first opening and blocking said second opening, and to a second position for opening said second opening and blocking said first opening.

15. A coffee maker comprising a reservoir for containing a volume of untreated water sufficient to brew a similar desired volume of coffee, and a brewing compartment, wherein the improvement comprises the water treatment unit of claim 1 positioned in the bottom of said reservoir and discharging the water treated by said unit directly to the brewing compartment without any substantial holding of the treated water after treatment by the water treatment unit and before discharge to the brewing compartment.

16. A coffee maker comprising a reservoir for containing a volume of untreated water sufficient to brew a similar desired volume of coffee, and a brewing compartment, wherein the improvement comprises the water treatment unit of claim 2 positioned in the bottom of said reservoir and discharging the water treated by said unit directly to the brewing compartment without any substantial holding of the treated water after treatment by the water treatment unit and before discharge to the brewing compartment.

17. A coffee maker comprising a reservoir for containing a volume of untreated water sufficient to brew a similar desired volume of coffee, and a brewing compartment, wherein the improvement comprises the water treatment unit of claim 4 positioned in the bottom of said reservoir and discharging the water treated by said unit directly to the brewing compartment without any substantial holding of the treated water after treatment by the water treatment unit and before discharge to the brewing compartment.

18. A coffee maker comprising a reservoir for containing a volume of untreated water sufficient to brew a similar desired volume of coffee, and a brewing compartment, wherein the improvement comprises the water treatment unit of claim 5 positioned in the bottom of said reservoir and discharging the water treated by said unit directly to the brewing compartment without any substantial holding of the treated water after treatment by the water treatment unit and before discharge to the brewing compartment.

19. A coffee maker comprising a reservoir for containing a volume of untreated water sufficient to brew a similar desired volume of coffee, and a brewing compartment, wherein the improvement comprises the water treatment unit of claim 6 positioned in the bottom of said reservoir and discharging the water treated by said unit directly to the brewing compartment without any substantial holding of the treated water after treatment by the water treatment unit and before discharge to the brewing compartment.

20. A coffee maker comprising a reservoir for containing a volume of untreated water sufficient to brew a similar desired volume of coffee, and a brewing compartment, wherein the improvement comprises the water treatment unit of claim 10 positioned in the bottom of said reservoir and discharging the water treated by said unit directly to the brewing compartment without any substantial holding of the treated water after treatment by the water treatment unit and before discharge to the brewing compartment.

21. A container for treating and holding water, comprising  
 an untreated water reservoir for receiving untreated water, said untreated water reservoir including an inlet for receiving untreated water to be treated;  
 the water treatment unit of claim 1 positioned in the bottom of said untreated water reservoir and receiving untreated water therefrom to treat the untreated water; and  
 a treated water reservoir receiving the water which has been treated by said water treatment unit, said treated water reservoir being substantially larger in volume than said untreated water reservoir.

22. A container for treating and holding water, comprising  
 an untreated water reservoir for receiving untreated water, said untreated water reservoir including an inlet for receiving untreated water to be treated;  
 the water treatment unit of claim 2 positioned in the bottom of said untreated water reservoir and receiving untreated water therefrom to treat the untreated water; and  
 a treated water reservoir receiving the water which has been treated by said water treatment unit, said treated water reservoir being substantially larger in volume than said untreated water reservoir.

23. A container for treating and holding water, comprising  
 an untreated water reservoir for receiving untreated water, said untreated water reservoir including an inlet for receiving untreated water to be treated;

the water treatment unit of claim 4 positioned in the bottom of said untreated water reservoir and receiving untreated water therefrom to treat the untreated water; and

a treated water reservoir receiving the water which has been treated by said water treatment unit, said treated water reservoir being substantially larger in volume than said untreated water reservoir.

24. A container for treating and holding water, comprising

an untreated water reservoir for receiving untreated water, said untreated water reservoir including an inlet for receiving untreated water to be treated;

the water treatment unit of claim 6 positioned in the bottom of said untreated water reservoir and receiving untreated water therefrom to treat the untreated water; and

a treated water reservoir receiving the water which has been treated by said water treatment unit, said treated water reservoir being substantially larger in volume than said untreated water reservoir.

25. A container for treating and holding water, comprising

an untreated water reservoir for receiving untreated water, said untreated water reservoir including an inlet for receiving untreated water to be treated;

the water treatment unit of claim 10 positioned in the bottom of said untreated water reservoir and receiving untreated water therefrom to treat the untreated water; and

a treated water reservoir receiving the water which has been treated by said water treatment unit, said treated water reservoir being substantially larger in volume than said untreated water reservoir.

26. A container for treating and holding water, comprising

an untreated water reservoir for receiving untreated water, said untreated water reservoir including an inlet for receiving untreated water to be treated;

the water treatment unit of claim 13 positioned in the bottom of said untreated water reservoir and receiving untreated water therefrom to treat the untreated water; and

a treated water reservoir receiving the water which has been treated by said water treatment unit, said treated water reservoir being substantially larger in volume than said untreated water reservoir.

27. A container for treating and holding water, comprising  
an untreated water reservoir for receiving untreated water, said untreated water reservoir including an inlet for receiving untreated water to be treated;

the water treatment unit of claim 14 positioned in the bottom of said untreated water reservoir and receiving untreated water therefrom to treat the untreated water; and

a treated water reservoir receiving the water which has been treated by said water treatment unit, said treated water reservoir being substantially larger in volume than said untreated water reservoir.

28. The unit of claim 2, including a vent in said housing communicating with said third chamber to vent air from said third chamber.